



Albuquerque duo wins Supercomputing Challenge

April 22, 2008



Modeled spacecraft's re-entry into the atmosphere

LOS ALAMOS, New Mexico, April 22, 2008— Budding scientists from Albuquerque, Erika DeBenedictis of St. Pius X High School and Tony Huang of La Cueva, captured the top prize Tuesday during the 2008 New Mexico Supercomputing Challenge award ceremony hosted by Los Alamos National Laboratory.

The team's project, "An Analysis of Direct Simulation Monte Carlo and Its Application to Simulating Supersonic Shockwaves," modeled a spacecraft's reentry into the atmosphere. Each student on the winning team earned \$1,000. Their teacher received a projection system.

The Supercomputing Challenge is open to any New Mexico high-school or middle-school student. More than 330 students from 33 schools around the state spent

the school year researching scientific problems, developing sophisticated computer programs, and learning about computer science with mentors from the state's national laboratories and other organizations.

The goal of the year-long event is to teach teams of middle and high schools students how to use powerful computers to analyze, model, and solve real-world problems. Participating students improve their understanding of technology by developing skills in scientific inquiry, modeling, computing, communications, and teamwork.

A Los Alamos Middle School project titled "Turn Up the Heat, Energy Efficiency Through Smart Wall Design" earned second place. Students Rachel Robey and Jessie Bohn each were awarded \$500. For their efforts, their teacher, LeAnn Salazar-Montoya, received a projection system.

Albuquerque Academy students Michael Wang and Ari Shaw-Faber won third place with their project, "Nanoscale Self-Assembly." The two students won \$250 each.

A total of \$70,000 in individual scholarships — \$50,000 from Los Alamos' Computer, Computational, and Statistical Sciences Division — were awarded on Tuesday at Los Alamos.

The following first-year teachers were honored: Jose Quiroz of Artesia, Maureen Psalia-Dombrowski, LeAnne Salazar-Montoya, Andrea Spence, and Zeynep Unal all of Los Alamos.

To read a list of other Supercomputing Challenge award winners, go to http://www.lanl.gov/news/newsbulletin/pdf/Supercomputing_042208.pdf. Students presented their research to a team of volunteer judges on Monday at the Laboratory and discussed poster displays of their computing projects. They also toured the Laboratory's supercomputing centers and heard talks and saw demonstrations by Laboratory researchers.

Project GUTS middle schools students gave PowerPoint presentations and StarLogo TNG models to three other teams during one-hour roundtable sessions in the afternoon. Read more at <http://projectguts.org> online.

Supercomputing Board Member Willard Smith presented awards at Tuesday's ceremony, which also was attended by State Rep. Jimmie Hall R-Albuquerque; Veronica Rodriguez from the office of New Mexico Senator Pete Domenici; and Chris Neubauer from the office of New Mexico Representative Tom Udall.

Bob Robey of Los Alamos's Computational Analysis and Simulation Group received the Governor's Award for his tireless championship of the Challenge. Robey is a kickoff facilitator, a team mentor, and the driving force of getting the Challenge to offer a statewide, locally created, online advanced placement class in computer science.

The Supercomputing Challenge is sponsored by Los Alamos and Sandia national laboratories and the state of New Mexico.

Educational Partners include CHECS, Eastern New Mexico University, MIT StarLogo, New Mexico Highlands University, New Mexico Institute of Mining and Technology, the New Mexico Public Education Department, New Mexico State University, San Juan College, Santa Fe Community College, Santa Fe Institute, Tennessee State University, and the University of New Mexico.

Lockheed Martin, Sandia National Laboratories, Siemens Foundation, and Wolfram Research, Inc. are "Gold" commercial partners. "Silver" commercial partners are Gulfstream Group and bigbyte.cc, HP, Intel Corporation, One Connect IP, VanDyke

Software, Inc., Strategic Analytics, and ZiaNet. Abba Technologies/SGL, Albuquerque Journal, Apogentech, BX Internet, iniCom Networks Inc, Lobo Internet Services, New Mexico Information Technology and Software Association, New Mexico Technet/Computer Reruns, New Mexico Internet Professionals Association, Redfish Group, and the Santa Fe New Mexican are “Bronze” commercial partners.

More information on the New Mexico Supercomputing Challenge is at <http://www.challenge.nm.org/> online and final student reports are available at <http://www.challenge.nm.org/finalreports/> online.

Los Alamos National Laboratory

www.lanl.gov

(505) 667-7000

Los Alamos, NM

Operated by Los Alamos National Security, LLC for the Department of Energy's NNSA

